UNITED STATES PATENT AND TRADEMARK OFFICE

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10/017,701	12/14/2001	Li-Wen Chen	52719.00036	5723

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EXAMINER
NGUYEN, CINDY

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 April 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23 and 25-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23, 25-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 June 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4, 5* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

This is in response to amendments filed 04/08/05.

Applicant's arguments have been considered but are moot in view of the new ground(s)

of rejection.

1.   Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102
> of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art
> to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-4, 11-23, 25, 26, 29 and 30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hall et al. (U.S 5675785) (Hall) in view of Geomatica vol. 55, no. 4, 2001, pp.539

to 555 "Toward better support for spatial decision making: defining the characteristics of spatial

on-line analytical processing (SOLAP).

Regarding claim 1, Hall discloses: A method, comprising: receiving a first database (col. 4, lines

37-42, Hall); forming a virtual schema (warehouse schema, col. 4, 46-59, Hall) including at least a

portion of a dataset included within the first database (col. 6, 52-61, Hall); receiving a first input

indicating a criteria (col. 7, 37-40, Hall); aggregating data of the first database into one or more

groupings in accordance with the virtual schema and the first input indicating the criteria (col. 6, line 62

to col. 7, Hall).

However, Hall didn't disclose: displaying one or more indicators associated with the one

or more groupings on an n-dimensional presentation. On the other hand, Geomatica discloses:

displaying one or more indicators associated with the one or more groupings on an n-

dimensional presentation (page 545, section 4.1, Geomatica). Thus, at the time invention was

made, it would have been obvious to a person of ordinary skill in the art to include displaying

one or more indicators associated with the one or more groupings on an n-dimensional

presentation in the system of Hall as taught by Geomatica. The motivation being to enable the

system provide a spatial on-line analytical processing that permits the representation of cross-

dimensional analysis implying one or more spatial dimensions through a cartographic display

seamlessly integrated with the application and accessible from a common user interface and

display in the form of different types of maps.

Regarding claim 2, all the limitations of this claim have been noted in the rejection of

claim 1 above. In addition, Hall/Geomatica discloses: further comprising: receiving a second

input indicating one or more regions (page 546, section 4.2, Geomatica); storing the second

input as a spatial-object Meta data (page 550, right column, 2nd paragraph, Geomatica); and

aggregating the groupings based upon the spatial-object meta data (col. 6, lines 30-40, Hall).

Regarding claim 3, all the limitations of this claim have been noted in the rejection of

claim 2 above. In addition, Hall/Geomatica discloses: further comprising: displaying one or

more indicators associated with the one or more groupings in a region associated therewith on

an n-dimensional presentation (page 545, section representation of one or more measures

simultaneously, Geomatica).

Regarding claim 4, all the Limitations of this claim have been noted in the rejection of claim 2 above. In addition, Hall/Geomatica discloses: wherein the region comprises at least one of: a polygon, a circle, a rectangle, an ellipse, and an animal home range (fig. 5b, page 548, Geomatica).

Regarding claim 11, all the limitations of this claim have been noted in the rejection of claim 3 above. However, Hall/Geomatica didn't disclose: wherein: the n-dimensional presentation comprises a map. On the other hand, Lucas discloses: wherein: the n-dimensional presentation comprises a map (page 545, section 4.1, Geomatica).

Regarding claim 12, all the limitations of this claim have been noted in the rejection of claim 11 above. In addition, Hall/Geomatica discloses: wherein: displaying one or more indicators further comprises: determining an x, y coordinate for each region on the map; displaying at least one indicator associated with the one or more groupings on the map at the x, y coordinate (page 544, section 3.1, paragraph #4, Geomatica).

Regarding claim 13, all the Limitations of this claim have been noted in the rejection of claim 2 above. In addition, Hall/Geomatica discloses: further comprising: receiving a third input indicating a one or more redefined regions; storing the third input as a redefined spatial-object meta data (page 546, section 4.2, Geomatica); and aggregating into new groupings based upon the spatial-object meta data (page 546, section 4.2, Geomatica).

Regarding claim 14, all the Limitations of this claim have been noted in the rejection of claim 2 above. In addition, Hall/Geomatica discloses: further comprising: redefining the virtual schema based upon the spatial-object Meta data (page 544, section 3.1, Geomatica).

As per claims 15 and 16, all the Limitations of these claims have been noted in the rejection of claims 2 and 3. It is therefore rejected as set forth above.

Regarding claim 17, all the Limitations of this claim have been noted in the rejection of claims 1 and 2 above. It is therefore rejected as set forth above.

Regarding claim 18, all the Limitations of this claim have been noted in the rejection of claim 1 above. In addition, Hall/Geomatica discloses further comprising: generating code in accordance with the virtual schema (page 540, section 2.1, Geomatica).

Regarding claim 19, all the Limitations of this claim have been noted in the rejection of claim 1 above. In addition, Hall/Geomatica discloses further comprising: providing customer centric information to a core of customer data within the database in accordance with the virtual schema (col. 13, lines 46-59, Hall).

As per claim 20, all the Limitations of these claims have been noted in the rejection of claims 1 and 2 above. It is therefore rejected as set forth above.

Regarding claim 21, all the limitations of these claims have been noted in the rejection of

claims 1 and 2 above. In addition, Hall/Geomatica discloses: A system, comprising: a schema

builder (24, fig. 1, and corresponding text, Hall) that generates one or more virtual schemas

(col. 6, lines 62-65, Hall) including at least a portion of data input from a source (col. 7, lines 1-

4, Hall), and generates mapping rules controlling data movement into a data warehouse (col. 7,

lines 42-50, Hall); a metadata repository operative to hold the virtual schemas and mapping

rules (col. 9, lines 30-40, Hall); a data warehouse builder (23, fig. 1, Hall); a region checker

(page 545, section visualization of context data, Geomatica); a spatial-object data repository

(page 27, fig. 1, Hall) and wherein one or more indicators associated with one or more

groupings determined from the at least a portion of data input from a source are displayed on

the n-dimensional presentation (page 545, section 4.1, Geomatica).

Regarding claim 22, all the limitations of this claim have been noted in the rejection of claim 21

above. In addition, Hall/Geomatica discloses: wherein the source comprises at least one of a plurality of

on line transaction (OLTP) databases (col. 6, lines 63 to col. 7, lines 7, Hall).

Regarding claim 23, Hall/Geomatica discloses: An apparatus, comprising: means for

generating one or more virtual schemas (104, fig. 6 and corresponding text, Hall, and 104 is a

schemas contains the physical table configuration and relationship between tables of data

therefore it is virtual schemas) including at least a portion of data input from a source (col. 14,

lines 20-23, Hall); means for generating mapping rules controlling data movement into a data

warehouse (16, fig. 6 and corresponding text, Hall); means for holding the virtual schemas and

mapping rules (col. 14, lines 25-33, Hall); means for generating one or more analysis functions

based upon the virtual schemas and data input (col. 14, lines 20-63, Hall) means for displaying

one or more indicators associated with the one or more groupings on an n-dimensional

presentation (page 545, section 4.1, Geomatica).

Regarding claim 25, Hall/Geomatica discloses: A computer program product,

comprising: code for accessing meta data from a repository (col. 6, lines 45-51, Hall); code for

providing customer activity correlation queries with access to a database of a data warehouse

(col. 6, lines 52-61, Hall); code for providing customer data analysis functions (col. 7, lines 42-

50, Hall); code for displaying analysis results to at least one of a plurality of business

applications using one or more indicators associated with the one or more groupings on an n-

dimensional presentation (page 545, section 4.1, Geomatica); and a computer readable storage

medium for holding the codes (23, fig. 1, Hall); code for translating entities from a meta model

into a data schema to form a database (col. 8, lines 58-65, Hall).

Regarding claim 26, all the limitations of this claim have been noted in the rejection of

claim 1 above. In addition, Hall/Geomatica discloses a customer data analysis report produced

according to the method of claim 1 (col. 7, table 1, Hall).

Regarding claim 29, all the limitations of this claim have been noted in the rejection of

claim 1 above. In addition, Hall/Geomatica discloses wherein displaying one or more indicators

associated with one or more groupings on an n-dimensional presentation comprise: overlaying

the one or more indicators on a virtual world presentation (page 545, section Flexible display

management, Geomatica).

As per claim 30, all the Limitations of these claims have been noted in the rejection of claim 1. It is therefore rejected as set forth above.

3.   **Claims 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (U.S 5675785) (Hall) in view of** Geomatica vol. 55, no. 4, 2001, pp.539 to 555 "Toward better support for spatial decision making: defining the characteristics of spatial on-line analytical processing (SOLAP) **and further in view of Michael Gonzales "Seeking spatial intelGeomaticagence,http://intelGeomaticagententerprise.com/000120/feat1.shtml provided by Applicant.**

Regarding claim 5, all the limitations of this claim have been noted in the rejection of claim 2 above. However, Hall/Geomatica didn't disclose: wherein: the second input indicating one or more regions comprises: at least one of: an input from a user, a pre-determined area, a derivation based upon one or more objects on the n-dimensional presentation, and a result of a computation. On the other hand, Gonzales discloses: pre-determined area (table 1, page 2, Gonzales). Thus, at the time invention was made, it would have been obvious to a person of ordinary skill in the art to include the step for pre-determined area in the combination system of Hall/Geomatica as taught by Gonzales. The motivation being to enable the system maps the spatial entity and presenting spatial data across the organization.

Regarding claim 6, all the limitations of this claim have been noted in the rejection of claim 5 above. In addition, Hall/Geomatica/Gonzale discloses: wherein: the pre-determined area comprises at least one of: a zip code, an area code, a census tract, a Metropolitan Statistical Area (MSA), a nation state, a state, a county, a municipality, a latitude, and a longitude (table 1, page 2, Gonzales).

Regarding claim 7, all the limitations of this claim have been noted in the rejection of claim 5 above. In addition, Hall/Geomatica/Gonzale discloses: wherein: the derivation based upon one or more objects on the n-dimensional presentation comprises: a region within a specified distance of a power line (distance of location to the warehouse in table 1, page 2, Gonzales).

4.   **Claims 8-10 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. (U.S 5675785) (Hall) in view of Geomatica vol. 55, no. 4, 2001, pp.539 to 555 "Toward better support for spatial decision making: defining the characteristics of spatial on-line analytical processing (SOLAP) and further in view of Michael Gonzales "Seeking spatial intelGeomaticagence,http://intelGeomaticagententerprise.com/000120/feat1.shtml and further in view of Anderson et al. "Coordinates of a Killer-Geospatial solutions" provide by Applicant.**

Regarding claim 8, all the limitations of this claim have been noted in the rejection of claim 5 above. However, Hall/Geomatica/Gonzale didn't disclose: wherein the result of a computation comprises: computing an animal home range, the home range providing a region defined by activities of a target; defining within the region a first ellipse; and defining within

the region a second ellipse approximately orthogonal to the first ellipse; wherein an area defined

by intersection of the first ellipse and the second ellipse provides a greatest probability of finding

the target. On the other hand, Anderson discloses: wherein the result of a computation

comprises: computing an animal home range, the home range providing a region defined by

activities of a target; defining within the region a first ellipse; and defining within the region a

second ellipse approximately orthogonal to the first ellipse; wherein an area defined by

intersection of the first ellipse and the second ellipse provides a greatest probability of finding

the target (page 3, paragraphs 3-4, Anderson). Thus, at the time invention was made, it would

have been obvious to a person of ordinary skill in the art to include the step for computing the

activities of a target within the region as claimed in the combination system of Hall/Geomatica/

Gonzales as taught by Anderson. The motivation being to enable the system maps of store and

victim locations as well as economic geography theories and showing distance intervals for each

store, also using the algorithms to calculate the animal movements (page 3, paragraphs 3-4,

Anderson).

Regarding claim 9, all the limitations of this claim have been noted in the rejection of

claim 8 above. In addition, Hall/Geomatica/Gonzale/Anderson discloses: wherein: the target

comprises at least one of: a suspect, who perpetrated criminal acts defined by the data, a

customer, who completed transactions in shops defined by the data, a source of biological

material, which caused infections in persons defined by the data (page 3, paragraphs 3-4,

Anderson).

Regarding claim 10, all the limitations of this claim have been noted in the rejection of claim 2 above. In addition, Hall/Geomatica /Anderson discloses: wherein: aggregating the groupings based upon the spatial-object meta data comprises: checking whether data points fall within a common region, and if so, aggregating data represented by the data points (col. 11, line 27-59, Geomatica).

Regarding claim 31, all the limitations of this claim have been noted in the rejection of claim 30 above. In addition, Hall/Geomatica /Anderson discloses: wherein associating an indicator with the grouping of data for display of the indicator on an n-dimensional presentation comprises: displaying at least one indicator, the indicator indicating a location and density information determined from the source data (page 3, paragraph 2-4, Anderson).

Regarding claim 32, all the limitations of this claim have been noted in the rejection of claim 21 above. In addition, Hall/Geomatica /Anderson discloses: wherein displaying at least one indicator, the indicator indicating a location and density information determined from the source data comprises: displaying a graphical depiction of the source data, wherein density information is indicated by the graphical depiction (page 3, last paragraph to page 4 1st paragraph, Anderson).

Regarding claim 33, all the limitations of this claim have been noted in the rejection of claim 32 above. In addition, Hall/Geomatica /Anderson discloses: wherein displaying a graphical depiction of the source data, wherein density information is indicated by the graphical depiction comprise: displaying a bar graph depiction of source data, wherein the bar graph indicated modifications in response to user input (page 547, section manipulation of the temporal dimension with a timeline, Geomatica).

Regarding claim 34, all the limitations of this claim have been noted in the rejection of

claim 33 above. In addition, Hall/Geomatica /Anderson discloses: wherein displaying a bar

graph depiction of the source data, wherein the bar graph indicated modifications in response to

user input comprises: displaying at least one dot, right arrow, left arrow or word(s) (fig. 6, page

549, Geomatica).

5.   **Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al.**

(U.S 5675785) (Hall) in view of Geomatica vol. 55, no. 4, 2001, pp.539 to 555 "Toward better

support for spatial decision making: defining the characteristics of spatial on-line analytical

processing (SOLAP) and further in view of Brandt et al. (US 6714979) (Brandt) in view of.

Regarding claims 27 and 28, all the limitations of this claim have been noted in the

rejection of claim 2 above. In addition, Hall/Geomatica discloses: at least one of a plurality of

classification components providing classifications for information relating to the core

component (col. 8, lines 10-29, Hall). However, Hall/Geomatica didn't disclose: a method, a

computer readable storage medium containing information organized into a focal group and at

least one customized group, comprising: at least one of a plurality of core components;

providing at least one customized group, , comprising: at least one of a plurality of customer

activity components related to the core component; at least one of a plurality of activity lookup

components related to at least one of the customer activity components; wherein the focal group

and the customized group comprise a reverse star schema meta model. On the other hand,

Brandt disclose: a method, a computer readable storage medium containing information

organized into a focal group and at least one customized group, comprising: at least one of a

plurality of core components (col. 18, lines 7-19, Brandt); providing at least one customized

group, (col. 23, lines 62 to col. 24, lines 9, Brandt), comprising: at least one of a plurality of

customer activity components related to the core component (col. 23, lines 62 to col. 24, lines 9,

Brandt); at least one of a plurality of activity lookup components related to at least one of the

customer activity components (col. 19, lines 30-41, Brandt); wherein the focal group and the

customized group comprise a reverse star schema meta model (col. 18, lines 36-40,Brandt).

Thus, at the time invention was made, it would have been obvious to a person of ordinary skill

in the art to include the providing steps above in the system of Hall/Geomatica as taught by

Brandtl. The motivation being to enable the system supports customized data access, create

aggregates and perform transformation on the data prior to data mart in order to implement a

defined data model, as star schema key structures.

6.   *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Bakalash et al. (U.S 2002/0029207). Data aggregation server for managing a multi-

dimensional database and database management system having data aggregation server

integrated therein.

Benedikt et al. (U.S 6202063). Methods and apparatus for generating and using safe

constraint queries.

Roccaforte (U.S 6636870). Storing multidimensional data in a relational database management system.

Rosensteel Jr. et al. (U.S 6167405). Method and apparatus for automatically populating a data warehouse system.

Israni et al. (U.S 6308177). System and method for use and storage of geographic data on physical media.

7.   *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cindy Nguyen whose telephone number is 703-305-4698. The examiner can normally be reached on M-F: 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CN

Cindy Nguyen
June 14, 2005

FRANTZ COBY
PRIMARY EXAMINER